

ANIMAL ADAPTATIONS (PART 1)

Set up time: 5 minutes—have an adult with you at all times when doing any experiment.

Activity time: 30 min

What is needed:

Tub of Ice Water

Background: The team that is exploring the high altitude lakes in the Andes mountains not only have to deal with very little oxygen, but they have to battle with the elements. Being cold at high altitude can be a dangerous thing unless you are properly prepared.

How does your body adjust to a cold environment? Lets find out!

What to Do (Part 1)

- (1) Think about what types of animals need a lot of warm fur, or fat to keep from getting cold. Write these animal names down, or find a picture of them.
 - (2) Think about ways people (humans) maintain a constant body temperature. We build cars and houses with heating and cooling systems, and we wear warm clothes when it is cold outside. But we also have a built-in mechanism that helps us when we are cold (goose bumps) and when we are hot (sweating). If you cannot keep yourself warm, you can go into HYPOTHERMIA (cooling of the body core which can be very dangerous) or HYPERTHERMIA (where you get too hot, and can also be very dangerous)
 - (3) Using the tub of ice water, stick your hands into the cold water
 - (4) Watch as your body begins to form goose bumps on your arms—this helps to keep your body warm!
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PART 2

Set up time: 10 min

Activity time: one hour

What is needed:

Wool socks, and regular 100% cotton socks (ones that you can put on your hands, and go up to your elbow)—Make sure you check with an adult to see if you can get these socks wet!

Tub of Ice water (do this outside—because of the mess)

Hot Chocolate (this is the fun part after the activity!)

What to Do

- (1) Think about the different fabrics in clothing
- (2) Put one sock on each arm
- (3) Submerge and soak your socked arms in ice water
- (4) Remove your arms from the water
- (5) Swing your arms around in circles parallel to the body
- (6) When your fingers get cold, stop. Which hand is colder? Why?
- (7) Remove the cotton sock from your hand, and notice it will instantly feel warmer. Why?
- (8) Serve hot chocolate to warm up!